

REMARKS

Initially, Applicants thank the Examiner for the indication of allowability of Claims 12-17 and 22-24, as well as the indication of other allowable claims 6-8, 19, 28 and 35-38 if written in independent form.

I. Status of the Claims.

Claims 1-8, 11-17, 19, 21-25, and 27-41 are pending in the present application. This Response and Amendment amends Claims 1, 19 and 27.

II. Claim Amendments.

Claims 1 and 27 are amended to eliminate the term “substantially” in reference to the flat base. The basis for this amendment is the PCT Specification, page 8, lines 30-31 that refers to “the flat inner surface **50**”. The wording in Claim 1 was also rearranged for clarity. Claim 19 has been amended so it is properly dependent on a pending claim. These amendments do not add new matter. Entry of the amended claims is respectfully requested.

III. Request to Correct Inventorship.

The Office Action dated December 18, 2006 indicated that the Request to Correct Inventorship was deficient because the Oath filed on 10/29/06 did not list the entire inventive entity. Submitted herewith is a Declaration which lists all of the inventors and has been signed by all of the inventors. Reconsideration of the Request to Correct Inventorship in view of this Declaration is respectfully requested.

IV. The Rejection Under 35 USC § 112.

The Office has rejected Claim 19 under 35 USC § 112 for the reasons stated in numbered paragraph 3 of the Office Action. Claim 19 has been amended so it correctly depends from pending Claim 17. Withdrawal of this basis for rejection is respectfully requested.

V. The Rejection Under 35 USC § 102 Over Pieper et al.

Claims 27, 29-33 and 39-40 have been rejected Under 35 USC § 102 as being anticipated by Pieper et al (US Pat. No. 5,391,298) for the reasons stated in numbered paragraph 5 of the Office Action. Applicants respectfully request reconsideration and allowance of these claims in view of the following comments.

Claim 27 is limited to a container with a bottom “having an inner wall which is flat with the exit being substantially centrally located in the bottom.” In contrast, Pieper et al does not describe a container with a flat inner bottom wall. Pieper et al. describes a housing (**18**, i.e., container) with a *conical* bottom (See, Figs. 2 and 3), and a support plate (**38**) with “a plurality of concentric grooves that are intersected by a plurality of radially extending grooves. Fluid exit holes are disposed in some of the radially extending grooves at the peripheral end of the groove.” Although Pieper et al. discloses a *conically* shaped housing (**18**) having an exit portion (**36**), and also a support plate (**38**) with fluid holes at the peripheral end of radial grooves, Pieper et al. does not expressly nor inherently disclose, teach or suggest a container with a flat bottom having a centrally located exit as claimed by Applicants.

In addition, Applicants flat bottom container with a centrally located exit has advantages which are enumerated in the Specification. See, e.g., Specification, page 28, lines 29-37. Pieper does not teach or suggest these advantages, or teach or suggest the desirability of such an arrangement. Accordingly, Pieper et al. does not anticipate nor render obvious Claim 27, and Claims 29-33 and 39-40 which depend from Claim 27. Withdrawal of the rejection and allowance of these claims on this basis is requested.

VI. The Rejection Under 35 U.S.C. § 103(a) Over Pieper et al.

Claim 34 has been rejected by the Office under 35 U.S.C. § 103(a) as being unpatentable over Pieper et al. for the reasons stated in numbered paragraph 8 of the Office Action. Applicants respectfully traverse this basis for rejection for the reasons stated in Section V. above, with respect to Claim 1 from which Claim 34 depends. Withdrawal of the rejection and allowance of Claim 34 on this basis is requested.

VII. The Rejection under 35 U.S.C. § 103(a) Over Mehl In View Of Markell et al.

Claims 1-5, 9-11, 21, and 24-25 have been rejected by the Office under 35 U.S.C. § 103(a) as being unpatentable over Mehl (US Pat. No. 4,774,058) in view of (Markell et al. (US Pat. No. 5,279,742) for the reasons stated in numbered paragraph 7 of the Office Action. Applicants respectfully traverse this basis for rejection and request reconsideration and allowance of these claims based on the following remarks.

1. Mehl, Neither Alone, Nor In Combination With Markell et al. Describes A Layer Of Extraction Media With The Claimed Effective Diameter Ratio.

Claim 1 is limited to a thin layer of microparticulate extraction media wherein “the ratio of the effective diameter of the extraction media layer to the distance between its top and bottom surfaces is at least 5”. Neither Mehl, alone nor in combination with Markell et al. describes this limitation.

Figs. 6 and 7 in Mehl illustrate the embodiment of a filter that describes beads or particles **42**, *i.e.*, extraction media. To calculate the ratio of the effective diameter of the extraction media layer (*i.e.*, D_{eq}) to the distance between its top and bottom surfaces (*i.e.*, thickness), as claimed by Applicants (See, p. 6, line 27 of the Specification for a further description), the distance between the top and bottom surfaces of the extraction media layer (*i.e.*, the beads or particles) in Mehl must be described. Mehl does not describe this limitation.

Mehl teaches two different filter diameters (a), 1mm (Figs 1,2, and 3, col. 3), and 4 mm (Figs. 4 and 5), and a length (h) of 6.5 mm (col. 3). This calculates to a “cross sectional surface area, *i.e.*, “A” of 20.4 mm² and 81.6 mm², respectively ($A = 2\pi ah$). The effective diameter (D_{eq}) of these two columns is 5.1 mm and 10.2 mm, respectively, where ($D_{eq} = (4A/\pi)^{1/2}$). However, the *ratio* of the “effective diameter” D_{eq} to the top and bottom surfaces (*i.e.*, thickness), as claimed, cannot be calculated as the thickness of the layer of beads or particles **42** is not disclosed in Mehl, nor is the distance between the pair of membranes **44**, which could also be used to calculate the claimed ratio. Accordingly, Mehl does not expressly teach Applicants claimed limitation. Inherently, the layer could be of any length, up to the length of the column (6.5 mm). This calculates to respective ratios of at least .8 and 1.5, which are outside of Applicants claimed limitation of “at least 5”.

Markell et al. also does not describe the limitation of a media layer wherein “the ratio of the effective diameter of the extraction media layer to the distance between its top and bottom surfaces is at least 5” to make up for the deficiencies of Mehl. Accordingly, the Office has not established a *prima facie* case of obviousness over Mehl, alone, or in combination with Markell et al.

2. Mehl, Neither Alone, Nor In Combination With Markell et al. Describes A Flat Bottom Container.

Claim 1 is limited to a container with a bottom wall and a centrally located exit, where the bottom wall has a “flat internal surface”. Neither Mehl, alone, nor in combination with Markell et al. describes this limitation. Mehl discloses a fluid filter (10) having a filter disc (18) at its lower end. As seen in the cross-sectional view of Figures 2 and 9, the filter disclosed by Mehl has an open end (14) and a lower opening (16). The apparatus described in Mehl does not have a bottom wall. The end (16) is expressly described as “open”, and the Mehl apparatus comprises a side wall (i.e., support member 12) which ends at the opening (16). There is, in fact, no bottom wall described. The opening (16) in Mehl is closed with a filter disc (18), which is made of porous material (col. 3, line 19) and does not have a centrally located opening. Thus, a flat bottom container wall having a substantially centrally located exit, as recited in independent claim 1 is not described in Mehl.

Markell et al. discloses an extraction media disk, which also does not describe a flat bottom container with a centrally located exit, as claimed by Applicants, and does not remedy the deficiency of Mehl. Accordingly, the combination of Mehl and Markell et al. does not render the presently claimed invention obvious, and the Office has not established a *prima facie* case of obviousness.

3. The Claimed Apparatus Has A Superior Flow Pattern.

Applicants do not concede that the Office has established a *prima facie* case of obviousness. However, inasmuch as such a *prima facie* case of obviousness may exist, the *prima facie* case is rebutted by a superior property of the apparatus.

As described on pages 8-9 of the Specification, the apparatus having a flat bottom wall with a centrally located exit confers a superior property to the present apparatus. The superior properties of the claimed apparatus include substantially no channeling, efficient fluid transmission, and the homogenous absorption of compounds of interest in extraction media. Neither Mehl nor Markell et al. teaches or suggests the use of a flat bottom wall having a substantially centrally located exit. Further, the cited references do not teach or suggest that such a construction would confer the superior properties found by the Applicants. In view of this, Claim 1, and Claims 4-5, 11, 21, 25 and 41 which depend from Claim 1 are non-obvious over Mehl in view of Markell et al.

In view of the foregoing, the Applicants respectfully request that the rejections of claims 1-5, 11, 21, 25 and 41 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Applicants believe that all pending claims are in condition for allowance and a Notice of Allowance of all claims is respectfully requested. If, however, there remain any issues which can be addressed by telephone, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Please charge any fees due in connection with this Amendment or credit any overpayment to Deposit Account No. 19-2090.

Respectfully submitted,

SHELDON & MAK PC

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